UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _10 October 2007_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-15,18 and 20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-15,18 and 20_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. The Instant Office Action is in response to a Request for Continued Examination filed 10/10/2007.

2. Claims 1-15, 18 and 20 are currently pending in Instant Application.

Response to Arguments

Response: 35 U.S.C. § 101

3. **Applicants argue:**

"Executing a program under test in such a manner as to obtain improved testing coverage for software

applications that behave non-deterministically goes beyond simply reciting software steps, and produces

a useful, tangible, and concrete result--the well-tested program. Thus, at least for this reason, Applicants

respectfully submit that claim 1 is directed to statutory subject matter and request that the rejection

under 35 U.S.C. § 101 be withdrawn. Claims 2-6 depend on Claim 1 and at least for that reason should

also not be subject to a 35 U.S.C. § 101 rejection." (Remarks: page 6-7)

4. **Examiner Response:**

> **MPEP 2106 recites, in part:**
> The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a
> "useful, **concrete** and **tangible** result." ****>** State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d
> 1368, 1373-74, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998).< The purpose of this requirement is to limit patent protection
> to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more
> than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S.
> 519, 528-36, 148 USPQ 689, 693-96 (1966); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); In re Ziegler,
> 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

> **MPEP 2106 further states, in part:**
> In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful,
> tangible, and concrete, but rather on whether the final result achieved by the claimed invention is "useful, tangible, and
> concrete."

The claims, as recites, fail to comply with 35 U.S.C. § 101 for the following reasons. The claimed steps

do not produce the argued result. Specifically, there is no production of a well-tested program, but

merely a strategy that causes the program to have a "higher probability" to execute through untested

program behavior. The strategy, per se, is not claimed as a result. Even if claimed as the sole result

would raise 35 U.S.C. § 101 deficiencies as a strategy *per se* is merely an abstract idea.

> **MPEP 2106 further recites, in part:**
> Another consideration is whether the invention produces a "**concrete**" result. Usually, this question arises when a result

cannot be assured. In other words, the process must have a result that can be substantially **repeatable** or the process **must substantially produce the same result again**. In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101).

Furthermore, in accordance with the MPEP section *supra*, the limitation of causing the program to have a "higher probability" to execute through states that have been untested is deemed to not be concrete. Specifically, the criteria for the higher probability is not set forth clearly enough that the result would be consistently repeatable and reproducible. Having a "higher probability" does not guarantee that all or any of the untested sections will be reached.

Thus, the claimed subject matter remains in the non-statutory realm as not having a concrete and tangible final result in accordance with the MPEP section *supra*.

MPEP 2106.01 recites:
Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. [...]
Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759.
[...]
[C]omputer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are **not** physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized.

Furthermore, in accordance with MPEP 2106.01 cited *supra*, the claims are drawn to non-statutory subject matter as claiming functional descriptive material *per se*. Specifically, the claims are drawn to merely software steps of receiving data, creating and splitting cycles, executing a program, and creating probabilistic conclusions and executing the program again. The step of "storing a representation of the created strategies in computer memory" is not adequate to resolve the deficiency because the claim steps are drawn to software instructions. The functionally descriptive "storing" is merely an instruction and is not embodied on a computer-readable medium.

Thus, for the reasons above, the claimed invention is drawn to non-statutory subject matter for not having a concrete and tangible final result and being drawn to functional descriptive material *per se*.

5. **Applicants argue:**

"[A]pplicants have amended claim 15 in an effort to expedite prosecution. Specifically, the "instructions"

are now specifically "stored on the computer-readable medium."" (Remarks: page 7)

6. **Examiner Response:**

MPEP 2106.01 recites, in part:

When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and >In re< Warmerdam, 33 F.3d *>1354,< 1360-61, 31 USPQ2d *>1754,< 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

Upon review of the amendments it appears claim 15 suffers from the same concreteness issues as

presented above for claim 1 and is therefore rejected accordingly.

7. **Additional Examiner Comments:**

Upon further consideration of Applicants' amendments to claim 7, the claim is now drawn to non-

statutory subject matter for the same concreteness issues as presented above for claim 1 and is

therefore rejected accordingly.

In accordance with MPEP 2106.01 ("When a computer program is claimed in a process where the

computer is executing the computer program's instructions, USPTO personnel should treat the claim as a

process claim. When a computer program is recited in conjunction with a physical structure, such as a

computer memory, USPTO personnel should treat the claim as a product claim."), claim 7 is being treated

as a process claim, and claim 15 is being treated as a product claim.

The statutory class of claim 1 is unknown and cannot be determined from the claim language.

Response: 35 U.S.C. § 112

8. **Applicants argue:**

"Applicants have amended claim 13 in an effort to expedite prosecution, and to provide explicit

antecedent basis for the claim 13 language "the created strategies." Applicants respectfully request that

the rejection be removed." (Remarks: page 7)

9. **Examiner Response:**

Applicants' amendment is sufficient to overcome the 35 U.S.C. § 112 deficiency. Accordingly, the

rejection has been withdrawn.

Response: 35 U.S.C. § 102

10. **Examiner Response:**

Applicants' arguments regarding have been fully considered but are moot in view of new grounds of

rejection presented below.

However, it is noted that in the arguments regarding claim 15 (page 12), the recited "Amended claim 15"

differs in language of the actual amendment. Specifically, the "wherein" clause is missing from the

Remarks.

Claim Interpretation

MPEP 2111.04 recites, in part:
"Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. [...] [T]he court noted (quoting Minton v. Nat'l Ass'n of Securities Dealers, Inc., 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited.'" Id."

11. Limitations drawn to allowing, enabling or making optional a function's performance does not further

limit a claim. As such, any prior art not explicitly prohibiting the performance of the function

inherently anticipates the limitation.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claims 1-15, 18 and 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to

non-statutory subject matter.

MPEP 2106 recites, in part:
The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a "useful, **concrete** and **tangible** result." **> State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d 1368, 1373-74, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998).< The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 (1966); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); In re Ziegler, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

MPEP 2106 further states, in part:

In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is "useful, tangible, and concrete."

The claims, as recites, fail to comply with 35 U.S.C. § 101 for the following reasons. The claimed steps do not produce the argued result. Specifically, there is no production of a well-tested program, but merely a strategy that causes the program to have a "higher probability" to execute through untested program behavior. The strategy, per se, is not claimed as a result. Even if claimed as the sole result would raise 35 U.S.C. § 101 deficiencies as a strategy *per se* is merely an abstract idea.

MPEP 2106 further recites, in part:

Another consideration is whether the invention produces a "**concrete**" result. Usually, this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially **repeatable** or the process **must substantially produce the same result again**. In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101).

Furthermore, in accordance with the MPEP section *supra*, the limitation of causing the program to have a "higher probability" to execute through states that have been untested is deemed to not be concrete. Specifically, the criteria for the higher probability is not set forth clearly enough that the result would be consistently repeatable and reproducible. Having a "higher probability" does not guarantee that all or any of the untested sections will be reached.

Thus, the claimed subject matter remains in the non-statutory realm as not having a concrete and tangible final result in accordance with the MPEP section *supra*.

MPEP 2106.01 recites:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. [...]

Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759.

[...]

[C]omputer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are **not** physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized.

Furthermore, in accordance with MPEP 2106.01 cited *supra*, the claims are drawn to non-statutory subject matter as claiming functional descriptive material *per se*. Specifically, the claims are drawn to

merely software steps of receiving data, creating and splitting cycles, executing a program, and creating

probabilistic conclusions and executing the program again. The step of "storing a representation of the

created strategies in computer memory" is not adequate to resolve the deficiency because the claim

steps are drawn to software instructions. The functionally descriptive "storing" is merely an instruction

and is not embodied on a computer-readable medium.

Thus, for the reasons above, the claimed invention is drawn to non-statutory subject matter for not

having a concrete and tangible final result and being drawn to functional descriptive material *per se*.

> **MPEP 2106.01 recites, in part:**
>
> **When functional descriptive material is recorded on some computer-readable medium, it becomes
> structurally and functionally interrelated to the medium and will be statutory in most cases since use of
> technology permits the function of the descriptive material to be realized.** Compare In re Lowry, 32 F.3d 1579,
> 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing patentable weight of data structure limitations in the context
> of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and
> >In re< Warmerdam, 33 F.3d *>1354,< 1360-61, 31 USPQ2d *>1754,< 1759 (claim to computer having a specific data
> structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at
> 1760 (claim to a data structure per se held nonstatutory).

Claims 7 and 15 suffer from the same concreteness issues as presented above for claim 1 and is

therefore rejected accordingly.

The claims are now drawn to non-statutory subject matter for the same concreteness issues as presented

above for claim 1 and are therefore rejected accordingly.

MPEP 2106.01 states that "[w]hen a computer program is claimed in a process where the computer is

executing the computer program's instructions, USPTO personnel should treat the claim as a process

claim. When a computer program is recited in conjunction with a physical structure, such as a computer

memory, USPTO personnel should treat the claim as a product claim."). Accordingly, claim 7 is being

treated as a process claim, and claim 15 is being treated as a product claim.

The statutory class of claim 1 is unknown and cannot be determined from the claim language.

Response: Requests for Interview

13. An interview is not being granted because new grounds of rejection is set forth below. Thus, it is

necessary for the Applicants to review the new grounds of rejection. Furthermore, Applicants'

position was clearly written in the Remarks and therefore does not require further elaboration in a

telephonic interview.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-15, 18 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the **enablement requirement**. The claim(s) contains subject matter which was not described in

the specification in such a way as to enable one skilled in the art to which it pertains, or with which it

is most nearly connected, to make and/or use the invention.

Regarding claim 1, 7, and 15, the deficient limitation is "creating strategies through the graph that have a

higher probability of reaching discrete sequences not reached by the program" / "determining strategies

for the sequences of at least two edge transitions ending at non-deterministic behavior more likely to

reach an identified program behavior". The limitations are not enabled because one of ordinary skill in

the art would not know how to make and use the invention without undue experimentation. Specifically,

how is the strategy created, **what/who** creates the strategy? Also since the strategy merely has a

"high probability" if reaching untested points, it does not guarantee such an action. How can one make

and use the invention which does not guarantee success and therefore would not be able to know

whether the strategy indeed created a higher probability of success, or not. What are the steps required

in creating the strategy?

15. Claims not specifically mentioned are rejected by virtue of their dependency.

16. The Applicants are required to fix all other similar occurrences of the above-cited deficiencies.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 1-15, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee **(US 5,659,555)**, and further in view of Kranzlmuller's "NOPE: A nondeterministic Program Evaluator" ("Kranzlmuller").

Lee discloses: 1. A computerized method of creating test coverage for non-deterministic programs within a testing environment comprising:

receiving a graph of edges and states representing a program under test **(col: 5 line: 12-17; col: 6 line: 8-25)**;

creating a continuous cycle of edges through the graph that reaches each edge in the graph at least once **(col: 12 line: 4-14)**;

executing the program under test **(col: 8 line: 37-51)**;

determining untested program behavior as discrete sequences not reached by the program **(col: 4 line: 10-25; col: 8 line: 3-10; Fig 5 and descriptions; col: 11 line: 24-34)**;

creating strategies through the graph that have a higher probability of reaching discrete sequences not reached by the program **(col: 4 line: 11-23; col: 8 line: 37-51)**;

storing a representation of the created strategies in computer memory; and

executing the program under test under test conditions using the stored created strategies that cause the program to have a higher probability to execute through states that correspond to the untested program behavior **(col: 4 line: 11-23; col: 8 line: 37-51)**.

Lee however does not expressly disclose splitting the continuous cycle into discrete sequences that end at edges reaching non-deterministic states uncontrollable by the testing environment in the graph. Kranzlmuller however discloses the missing limitation of splitting (page 490 section 1 "A

traditional approach to error detection is cyclic debugging. [...] f is split up into subfunctions f1, f2,... fn

and repeated executions of f are used to determine the correct states between these subfunctions by

analyzing intermediate results.". It would have been obvious to one of ordinary skill in the art <program ·

modeling and simulation / behavior testing> at the time of Applicant's invention to combine the

references and their features.

MPEP 2144.III states (based on the KSR vs. Teleflex Supreme Court Ruling, in part:

Exemplary rationales that may support a conclusion of [...] (D)   Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results"

Accordingly, the following rationale is provided: one of ordinary skill could have applied the

known improvement of splitting the function effectively using a finer resolution by splitting the function

into pieces in the same way to Lee's disclosure and the results would have been predictable. The

analogous systems are both drawn to substantially identical subject matter of testing program behavior

and evaluation of untested functions (in case of Kranzlmuller that correlates to sections of code resulting

in errors) with claimed nondeterministic features. As such, the combination would have been obvious for

the reasons set-forth above.

Lee discloses: 2. The method of claim 1 wherein the received graph is a set of states and a set of edges,

and edges are represented as state source-target pairs **(col: 11 line: 24-34 "state pair"; col: 2 line:**

28-36).

Lee discloses: 3. The method of claim 1 wherein the continuous cycle of edges is created from the graph

input using a Chinese Postman tour algorithm **(col: 2 line: 56 to col: 3 line: 9)**.

Lee discloses: 4. The method of claim 1 wherein the graph states are received as a set of deterministic

vertices and a set of non-deterministic vertices **(col: 2 line: 28-36)**.

Lee discloses: 5. The method of claim 1 wherein the executing program is instrumented with executable

code that verifies during execution that a program state conforms to a state of the graph **(col: 2 line:**

28-36; col: 8 line: 37-51).

Lee discloses: 6. The method of claim 1 wherein created strategies are inputs that represent edges

between states of the graph, and test conditions cause the program to enter untested program behavior **(col: 7 line: 30-62; col: 7 line: 60-65; col: 12 line: 4-14)**.

Lee discloses: 7. A computer system comprising:

memory and a central processing unit executing **(inherent)**, a compiler for compiling an executable specification into an abstract state machine **(Fig 3 item 305 and Fig. description)**, a graphing program for creating a continuous cycle touching all edges of the abstract state machine, and for splitting the continuous cycle into discrete sequences that end at non-deterministic states **(col: 5 line: 12-17; col: 6 line: 8-25; col: 5 line: 8-15; col: 6 line: 26-35)**;

a strategy calculation program **(Fig 5 and description)** for creating strategies more likely to reach the untouched discrete sequences;

a coverage program for executing a program and verifying that the program executes states corresponding to those modeled by discrete sequences of the abstract state machine and for determining untouched discrete sequences and for executing the program according to the created strategies and verifying whether the program executes states corresponding to the untouched discrete sequences **(col: 4 line: 11-23; col: 8 line: 37-51)**.

Lee discloses: 8. The system of claim 7 wherein a continuous cycle is determined according to a Chinese Postman algorithm **(col: 2 line: 56 to col: 3 line: 9)**.

Lee discloses: 9. The system of claim 7 wherein discrete sequences comprise beginning states reachable from edges exiting non-deterministic states **(Fig 5 and its description; col: 12 line: 4-14)**.

Lee discloses: 10. The system of claim 7 wherein an untouched discrete sequence is a state selectable from a program code executing at a remote computer **(Fig 2 item 7 (and Figure's descriptions) Application which is coupled to Presentation to Session to Transport to Network from Host A to Host B and is therefore remote)**.

Lee discloses: 11. The system of claim 7 wherein the abstract state machine comprises a graph of states and edges **(col: 6 line: 8-25)**.

Lee discloses: 12. The system of claim 11 wherein the strategy calculation program receives the graph

and an edge probability function as input **(Fig 5 and its descriptions)**.

Lee discloses: 13. The system of claim 7 wherein untouched discrete sequences represent less than 10%

of the discrete sequences and all untouched discrete sequences are touched when the program is

executed according to the created strategies **(col: 8 line: 52 to col: 9 line: 7; a program without**

untouched discrete sequences anticipates this limitation).

Lee discloses: 14. The system of claim 7 wherein not all untouched discrete sequences are verified when

the program is executed according to the created strategies **(col: 4 line: 16)**.

As per claim 15, note the rejection of claims 1 and 7 above. The Instant Claim recites substantially same

limitations as the above-rejected claims and therefore rejected under same prior-art teachings, wherein

the "identified behavior" correlates to the "untested program behavior" because the untested program

behavior has to inherently be identified as being untested. Arguments to the contrary (arguments stating

that untested behavior is not inherently identified) may result in claims 1, 15, and their respective

dependent claims being rejected for 35 U.S.C. § 112 P1 enablement deficiencies.

Lee discloses: 16. The computer-readable medium of claim 15 wherein the modeled program behavior is

modeled as an abstract state machine **(Fig 3A and descriptions)**.

Lee discloses: 18. The computer-readable medium of claim 15 wherein the non-deterministic behavior

comprises communications with a remote computer **(col: 5 line: 18-25: "An FSM sends a message**

to other FSMs by means of an "output operation" designated by the "!" symbol. Where, for

example, there are two FSMs, machine #1 and machine #2, an output operation in machine

#1 is denoted by machine2!msg").

Lee discloses: 19. The computer-readable medium of claim 15 wherein determined strategies are

determined based on a comparison of edges exiting a deterministic state representing program behavior,

and a selected edge has a highest probability of reaching a state representing the identified program

behavior **(Fig 5 and its description; col: 12 line: 4-14; col: 6 line: 50-55)**.

Lee discloses: 20. The computer-readable medium of claim 15 wherein the instructions for verifying

program behavior cause the program to execute code that verifies that the program is in an expected

model state **(col: 2 line: 28-36; col: 8 line: 37-51)**.

Support for Amendments and Newly Added Claims

18. Applicants are respectfully requested, in the event of an amendment to claims or submission of new

claims, that such claims and their limitations be directly mapped to the specification, which provides

support for the subject matter. This will assist in expediting compact prosecution. MPEP 714.02

recites: "Applicant should also specifically point out the support for any amendments made to the

disclosure. See MPEP § 2163.06. An amendment which does not comply with the provisions of 37

CFR 1.121(b), (c), (d), and (h) may be held not fully responsive. See MPEP § 714." **Amendments**

not pointing to <u>specific support</u> in the disclosure may be deemed as not complying with

provisions of 37 C.F.R. 1.131(b), (c), (d), and (h) and therefore held not fully responsive.

Generic statements such as "Applicants believe no new matter has been introduced" may be deemed

insufficient.

Requests for Interview

19. In accordance with 37 CFR 1.133(a)(3), requests for interview must be made in advance.

19.1   Interview requests are to be made only by telephone (571-272-8634) call or FAX (571-273-

8634).

19.2   Applicants must provide a <u>detailed agenda</u> as to what will be discussed (generic statement such

as "discuss §102 rejection" or "discuss rejections of claims 1-3" may be denied interview).

19.3   The detail agenda along with any proposed amendments is to be written on a PTOL-413A or a

custom form and should be faxed (or emailed, subject to MPEP 713.01.I / MPEP 502.03) to the

Examiner <u>at least 3 days prior</u> to the scheduled interview.

20. Interview requests submitted within amendments may be denied because the Examiner was not

notified, in advance, of the Applicant Initiated Interview Request and due to time constraints may not

be able to review the interview request to prior to the mailing of the next Office Action.

Conclusion

21. All claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be

reached on Monday thru Friday, 10am to 6:30pm. If attempts to reach the examiner by telephone are

unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained from

either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at

866-217-9197 (toll-free).

/ DAVID SILVER /
David Silver, Patent Examiner
Art Unit 2128

KAMINI SHAH
SUPERVISORY PATENT EXAMINER